Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Cancel)

2. (Currently Amended) The method of claim 3 ~~claim 1~~, further including adjusting a printer parameter to optimize said printer for said cartridge based on said comparison.

3. (Currently Amended) ~~The method of claim 1~~ In an ink jet printer comprising a printhead cartridge, said printhead cartridge having a printhead comprising a plurality of jets thereto a method of testing said printhead, said method comprising:

storing in a memory element on said printhead cartridge a first set of jet characteristics of said printhead, wherein said first set of characteristics is indicative of the performance of said plurality of jets;

testing said printhead cartridge to generate a second set of jet characteristics, wherein said first and second set of characteristics are resistance values of resisters on said printhead; and

comparing said second set of jet characteristics with said first set of jet characteristics.

4. (Original) The method of claim 3, wherein said first set of characteristics comprises at least maximum and minimum expected resistance values.

5. (Original) The method of claim 4, wherein said second set of characteristics comprises resistance values for a plurality of jet resistors.

6. (Original) The method of claim 5, wherein comparing said second set of characteristics with said first set of characteristics includes comparing the

resistance of a jet resistor with the maximum and minimum expected resistance value for the jet resistors.

7. (Original) The method of claim 4, wherein said first set of characteristics is stored during the manufacturing process of said printhead cartridge.

8. (Original) The method of claim 5, wherein said printhead cartridge is tested upon installation in said printer to generate said second set of characteristics.

9. (Currently Amended) The method of claim 3 ~~claim 1~~, wherein said first and second set of characteristics are capacitance and/or resonance frequencies of piezo elements on said printhead.

10. (Original) The method of claim 9, wherein said first set of characteristics comprises at least maximum and minimum expected capacitance values.

11. (Original) The method of claim 10, wherein said second set of characteristics comprises capacitance values for a plurality of jet piezo elements.

12. (Currently Amended) The method of claim 3 ~~claim 1~~, wherein said first and second set of characteristics are selected from the group consisting of: dot quality, line quality, drop quality or color-to-color alignment.

13. (Currently Amended) The method of claim 3 ~~claim 1~~, wherein the printhead cartridge resides on a movable carriage.

14. (Currently Amended) The method of claim 3 ~~claim 1~~, wherein said second set of characteristics is compared with said first set of characteristics to determine if said printer is optimized for said cartridge.

15. (Previously Presented) A printhead cartridge comprising:

a housing;

a printhead mounted to said housing and including a plurality of jets thereon; and

an integrated circuit mounted to the housing, said integrated circuit comprising a memory element, wherein said memory element stores at least one set of jet characteristics, including maximum and minimum resistance values of resisters on said printhead.

16. (Cancel)

17. (Cancel)

18. (Currently Amended) The printhead cartridge of claim 15, further containing a plurality of electrical contacts configured to electrically connect said integrated circuit with a processor, wherein said processor compares ~~said~~ a second set of jet characteristics with said ~~first~~ at least one set of jet characteristics.

19. (Previously Presented) A printhead cartridge comprising:

a housing;

a printhead mounted to said housing and including a plurality of jets thereon; and

an integrated circuit mounted to the housing, said integrated circuit comprising a memory element, wherein said memory element stores at least one set of jet characteristics, including capacitance and/or resonance frequencies of piezo elements on said printhead.

20. (Previously Presented) A printhead cartridge comprising:

a housing;

a printhead mounted to said housing and including a plurality of jets thereon; and

an integrated circuit mounted to the housing, said integrated circuit comprising a memory element, wherein said memory element stores at least one set of jet characteristics, including at least expected capacitance values for piezo elements on said printhead.

21. (Previously Presented) A printhead cartridge comprising:

a housing;

a printhead mounted to said housing and including a plurality of jets thereon; and

an integrated circuit mounted to the housing, said integrated circuit comprising a memory element, wherein said memory element stores at least one set of jet characteristics, including resonance frequency values for piezo elements on said printhead.

22. (Original) The printhead cartridge of claim 15, wherein said at least one set of characteristics comprises characteristics selected from the group consisting of: dot quality, line quality, drop quality or color-to- color alignment.

23. (Original) A printer comprising:

a cartridge, said cartridge comprising:

a housing;

a printhead mounted to said housing and including a plurality of jets thereon;

an integrated circuit mounted to housing, said integrated circuit comprising a memory element, wherein said memory element stores a first set of characteristics of said plurality of jets, wherein said first set of characteristics comprises maximum and minimum expected resistance values of resistors on said printhead cartridge;

a memory, wherein said memory stores a second set of characteristics of the plurality of jets, wherein said second set of characteristics comprises measured resistance values for the plurality of jet resistors; and

a processor connected to the integrated circuit by a plurality of electrical contacts, wherein said processor compares said second set of characteristics with said first set of characteristics.

24. (Original) A method of detecting malfunctioning jets of an ink jet printhead cartridge comprising:

storing at least one jet resistance value in a memory on said cartridge, and comparing a measured resistance value to said stored value.

25. (Previously Presented) A printhead cartridge comprising:

a housing;

a printhead mounted to said housing and including a plurality of jets thereon; and

an integrated circuit mounted to the housing, said integrated circuit comprising a memory element, wherein said memory element stores at least one set of resistance values of resisters on said printhead, said at least one set of resistance values comprising a first set of characteristics including maximum and minimum expected resistance values for resistors on said printhead.

26. (Cancel)

27. (Original) In an ink jet printer comprising a printhead cartridge, said printhead cartridge having a printhead comprising a plurality of jets thereto a method of testing said printhead, said method comprising:

storing in a memory element a first set of jet characteristics comprising a plurality of resistance values for resistors on said printhead, wherein said first set of characteristics is indicative of the performance of said plurality of jets;

testing said printhead cartridge to generate a second set of jet characteristics comprising a plurality of resistance values for said resistors;

comparing said second set of jet characteristics with said first set of jet characteristics; and

adjusting a printer parameter to optimize said printer for said cartridge based on said comparison.

28. (Original) A printer comprising:

a cartridge, said cartridge comprising:

a housing;

a printhead mounted to said housing and including a plurality of jets thereon, wherein each jet has a piezo element;

an integrated circuit mounted to housing, said integrated circuit comprising a memory element, wherein said memory element stores a first set of characteristics of said plurality of jets, wherein said first set of characteristics comprises expected capacitance values for the piezo elements on said printhead;

a memory, wherein said memory stores a second set of characteristics of the plurality of jets, wherein said second set of characteristics comprises measured capacitance values for the piezo elements on said printhead; and

a processor connected to the integrated circuit by a plurality of electrical contacts, wherein said processor compares said second set of characteristics with said first set of characteristics.

Discussions Concerning the Drawings:

Formal drawings are submitted herewith under Separate Letter to the Draftsperson. For the convenience of the Examiner, a copy of the formal drawings is enclosed with this amendment.